

REMARKS

Claims 1, 2, 5, 6, 8-17, 20-23, 27, and 28 remain pending in this application.

The drawings have been objected to according to the Notice of Draftsperson's Patent Drawing Review, for containing non-English language legends throughout. These non-English language captions have been removed, thus overcoming this objection to the drawings.

The objections to the disclosure as noted on page 2 of the Office Action have been addressed in the amendments made to the specification. Therefore, these objections should be withdrawn.

Claims 2, 5, 6, 8, 9, 12-17, 20, 23, 27, and 28 stand rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed in view of the amendments to the claims. In particular, the claims have been amended to more clearly and positively recite the steps comprising the method claims to address formal issues raised by the Examiner. Accordingly, withdrawal of the rejection under 35 USC 112, second paragraph is respectfully requested.

Claims 1, 2, 5, 6, 10-17, 20-23, 27, and 28 stand rejected under 35 USC 102(b) as being anticipated by Hashimoto, U.S. Patent No. 5,333,413. This rejection is respectfully traversed.

According to the Examiner, Hashimoto discloses a method of simultaneously polishing both surfaces of a plurality of works or workpieces (i.e., silicon wafer) including merging each work with a carrier before supplying the work to a lower surface plate and supplying the work merged with the carrier to the lower surface plate in a merged state. However, this interpretation of Hashimoto is incorrect. To the contrary, Hashimoto fails to anticipate or render obvious the subject matter of the rejected claims.

As an initial distinction, Hashimoto relates to lapping, not to polishing as per Applicant's claims. Lapping precedes polishing to provide precise wafer thickness uniformity, flatness and parallelism. Lapping can also remove sub-surface and smaller lapping damage. In contrast,

polishing produces a smooth surface and removes surface cracks, ridges and valleys remaining after lapping. See, e.g., *Handbook of Semiconductor Silicon Technology*, William C. O'Mara et al., (1990). Further, according to the lapping method described by Hashimoto, five carriers 7 are set in advance of the lower surface plate, and, with the carriers positioned on the lower surface plate, works W are then sequentially set into the carriers 7 (see Fig. 1). That is, Hashimoto fails to teach or suggest having work W set into the carrier 7 outside the lower surface plate. Additionally, carrier 7 and work W are not set on the lower surface plate in a merged state. Thus, Hashimoto fails to anticipate or render obvious the combination of steps recited by claim 1 including:

merging each work with the carrier outside the lower surface plate before supplying the work onto the lower surface plate; and
supplying the work merged with the carrier outside the lower surface plate, onto the lower surface plate in a merged state,

The double side polishing method according to claim 1 is a polishing method wherein the work is merged with the carrier outside the lower surface plate and the work, once merged with the carrier outside the lower surface plate, is only then supplied onto the lower surface plate. As Hashimoto fails to describe or suggest such a combination of steps for polishing a work, the rejection under 35 U.S.C. 102(b) is improper and withdrawal thereof is respectfully requested.

Dependent claim 2 is allowable at least due to its dependency from claim 1 and in view of the failure of the cited references to teach or suggest the features of independent claim 1. Accordingly, the rejection of claims 2 under 35 U.S.C. 102(e) is improper and withdrawal thereof respectfully requested.

Claim 5 is also directed toward a method of polishing as in the case of claim 1. As in the case of claim 1, claim 5 also requires that a work be merged with a carrier outside the lower surface plate and that the work, merged with the carrier outside the lower surface plate, is supplied onto the lower surface plate. As Hashimoto fails to describe or suggest such a combination of steps for

polishing a work, the rejection under 35 U.S.C. 102(b) is improper and withdrawal thereof is respectfully requested.

Dependent claims 6, 15-17, 20-23 and 27-28 are all allowable at least due to their respective dependencies and in view of the failure of the cited references to teach or suggest the features of the independent claim 5. Accordingly, the rejection of claims 6, 15-17, 20-23 and 27-28 under 35 U.S.C. 102(e) is improper and withdrawal thereof respectfully requested.

Claim 10 is also directed to a method of polishing wherein a suction mechanism is provided on the lower surface plate for polishing the work. Again, Hashimoto is directed to lapping, not polishing and, in any case, fails to describe or suggest a combination wherein a work suction mechanism is provided on the lower surface plate. As Hashimoto fails to describe or suggest such a combination of steps for polishing a work, the rejection under 35 U.S.C. 102(b) is improper and withdrawal thereof is respectfully requested.

Dependent claim 11 is allowable at least due to its dependency from claim 10 and in view of the failure of the cited references to teach or suggest the features of the independent claim 10. Accordingly, the rejection of claim 11 under 35 U.S.C. 102(e) is improper and withdrawal thereof respectfully requested.

Claim 12 is likewise a method of polishing, including housing a plurality of processing bodies for processing polishing cloths that are installed on opposite surfaces of upper and lower rotary surface plates. The method includes a step of supplying the plurality of processing bodies for processing the polishing cloths between upper and lower rotary surface plates. In contrast, Hashimoto is directed to lapping, not polishing, and further fails to describe or suggest supplying a plurality of processing bodies for processing polishing cloths between upper and lower rotary surface plates. As Hashimoto fails to describe or suggest such a combination of steps for polishing a work, the rejection under 35 U.S.C. 102(b) is improper and withdrawal thereof is respectfully requested.

Dependent claims 13-14 are both allowable at least due to their respective dependencies and in view of the failure of the cited references to teach or suggest the features of independent claim 12. Accordingly, the rejection of claims 13-14 under 35 U.S.C. 102(e) is improper and withdrawal thereof respectfully requested.

Claim 8 stands rejected under 35 USC 103(a) as being unpatentable over Hashimoto in view of Kato et al. Claim 9 stands rejected under 35 USC 103(a) as being unpatentable over Hashimoto in view of Kato et al. and further in view of Kitajima et al. These rejections are respectfully traversed.

As described above, contrary to the position taken by the Examiner, Hashimoto is directed to lapping, not polishing, as recited by claim 8. Further, the suction mechanism disclosed by Kato et al. is merely a rotary work holder for securing a work, and is not a grinding machine. This work holder is used for holding a work to be ground while the work is being ground but does not grind the work. In contrast, according to claim 8, a work suction mechanism is provided on a lower surface plate for polishing the lower surface of the work. This prevents the work from adhering to the upper surface plate when the upper and lower surface plates are separated from each other after the polishing is completed so that the works remain on the lower surface plate. This allows discharge of the work merged with the carrier from the lower surface plate to the outside of the surface plate after polishing. Thus, as neither Hashimoto nor Kato, singularly or in combination, teach or suggest a polishing method combination including "injecting a liquid against the plurality of works from the upper fluid nozzles and/or causing the lower fluid nozzles to suck them in order to hold them on the lower rotary surface plate," the rejection under 35 U.S.C. 103(a) is improper and withdrawal thereof is respectfully requested.

Dependent claim 9 is allowable at least due to its dependency from claim 8 and in view of the failure of the cited references to teach or suggest the features of the independent claim 8. The addition of Kitajima does not cure the deficiencies outlined in connection with claim 8.

Accordingly, the rejection of claims 9 under 35 U.S.C. 103(a) is improper and withdrawal thereof respectfully requested.

In view of the above, each of the presently pending claims in this application is in condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. **474082001100**.

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Respectfully submitted,

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Attachments